

REMARKS

Claims 1-7 are all the claims pending in the application. Claims 1-3, and 5-6 are amended to delete the term “type.” Claim 1 is further amended to include the recitation “a homopolymer of polyalkyleneglycol” based on the Examples of the present disclosure. Entry is respectfully requested.

Applicants thank the Examiner for the courtesies extended to Applicants’ representative during the telephonic interview conducted December 4, 2008. Since the interview was conducted at the Examiner’s request, and a PTOL-413B was issued, it is believed that no separate statement regarding the substance of the interview need be filed by Applicant. Nonetheless, Applicants attach hereto a separate Statement of Substance of Interview.

The Claims are Patentable Under 35 U.S.C. § 112

Referring to paragraph 8 of the Office Action, claims 1-7 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

A. The Examiner points out that claims 1 and 6 recite an “aqueous dispersion type pressure-sensitive adhesive composition” and that the recitation “type” is allegedly unclear. The Examiner suggests the deletion of the word “type.”

Applicants delete the terms "type" from claims 1-3 and 5-6.

Withdrawal of this aspect of the rejection is earnestly solicited.

B. The Examiner also questions whether Applicants are intending to claim a dry adhesive or a wet adhesive. The Examiner points out that the claims recite an “aqueous dispersion type pressure-sensitive adhesive composition” while the Examples teach drying the adhesive layer onto the substrate. The Examiner indicates that he is interpreting the PSA of the claimed invention to be a dry adhesive. (Office Action at p. 4, ll. 1-2.)

Applicants respectfully traverse for the following reasons.

The claims clearly recite in relevant part “A pressure-sensitive adhesive” comprising “a pressure-sensitive adhesive layer,” wherein the “pressure sensitive adhesive layer is formed of an aqueous dispersion type pressure-sensitive adhesive composition.” In other words, the present claims clearly recite a pressure-sensitive adhesive (“PSA”).

A usual method of forming a PSA is to prepare an aqueous dispersion; to apply the dispersion to a substrate; and to dry the dispersion to form the PSA. See, *inter alia*, page 37 of the description.

In view of the foregoing, withdrawal of this aspect of the rejection is earnestly solicited.

The Claims are Patentable Under 35 U.S.C. §103(a)

Claims 1-7 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over WO 00/78884 (“WO ‘884”) in view of U.S. Patent No. 5,571,617 (“Cooprider”) and further as evidenced by Istvan Benedek and Luck J. Heymans (Pressure-Sensitive Adhesive Technology, Marcel Dekker Inc., Chapter 8, page 412, 1997) (“Benedek”). The Examiner relies upon U.S. Patent No. 6,518,343 (“Lucast”) as an equivalent document for WO ‘884.

Applicants respectfully traverse.

Instant claim 1 recites “at least one hydrophilic polymer selected from a homopolymer of polyalkylene glycol, polyvinylpyrrolidone, polyvinyl alcohol, and poly-(meth)acrylic acid.” The poly(alkylene oxide) copolymer employed in Lucast is thus different from the polyalkylene glycol employed in the present invention.

The wet-stick pressure-sensitive adhesive recited in claim 1 of Lucast employs a “nonreactive poly(alkylene oxide) copolymer comprising at least two copolymerized alkylene oxides, at least one of which is hydrophilic acid and at least one of which is hydrophobic.” This

means that at a copolymer comprising at least two copolymerized alkylene oxides, and it does not include single alkylene oxide (homopolymer of alkylene oxide).

In this regard, Lucast describes from col. 3, line 61 to col. 4, line 3, that "... PPO (poly(propylene oxide)) is hydrophobic and it is not suitable for the present application as is demonstrated in Comparative Example 2. PEO (poly(ethylene oxide)) at low molecular weight (less than about 1000) migrates out of the adhesive formulations because of its low molecular weight and high water solubility. PEO polymers at high molecular weight (greater than about 1,000; especially at the preferred range of about 3,000-12,000) are crystalline materials and will phase separate from the present adhesive compositions." In other words, Lucast clearly discloses that single poly(ethylene oxide) or poly(propylene oxide) are not preferable. Indeed, the hydrophilic polymer as defined in the present invention is taught as not being preferable and it would phase separate from the adhesive composition of Lucast.

Moreover, when the polyacrylic acid (hydrophilic polymer) is added before the polymerization of the acrylic polymer, the amount of emulsifier in the surface portion greatly exceeds the range recited in present claim 1. This point was established in the previously-submitted experimental results. It is apparent that polyethylene glycol, which also acts as a hydrophilic polymer, shows the same behavior. Accordingly, a pressure-sensitive adhesive tape obtained by the combination of Lucast and Coopridier (and Benedek) would not satisfy the amount of emulsifier in the surface portion as recited in the present claim 1.

Also, when hydrophilic polymer is added before the polymerization, the hydrophilic polymer dissolves in the water. Due to heating during polymerization, solubility further increases and the hydrophilic polymer becomes uniformly dispersed. Since the hydrophilic polymer is dispersed in the water at a molecular level, it does not specifically influence the

emulsifier. After polymerization, during the drying process, the emulsifier tends to move to the surface side (air contact surface) due to the influence of the hydrophobic group.

To contrast, when the hydrophilic polymer is added after the polymerization, it does not disperse uniformly. Rather, it becomes dispersed as an aggregate. This point was illustrated in the previously submitted TEM photograph. As the hydrophilic portion of the emulsifier adsorbs to the hydrophilic polymer in the form of an aggregate, distribution of the emulsifier on the outer surface becomes less likely to occur.

In view of the foregoing, and as seen in the experimental results, the timing of the addition of the hydrophilic polymer has an affect on the amount of the emulsifier in the surface portion of the PSA. Hence, as described at lines 2-7 on page 30 of the present specification, "... in order that the polymerization of the acrylic polymer (A) may not be adversely affected, it is preferable to contain the hydrophilic polymer (C) in the aqueous dispersion type pressure-sensitive adhesive composition by adding it as an aqueous solution after the polymerization of the acrylic polymer (A)."

Further, in Lucast, the polymerization process is one of solution polymerization, UV polymerization or solventless polymerization. See cols. 9-10. Hence, in Lucast, the form of the hydrophilic polymer (which does not exist stably), and its behavior (which will phase separate from the adhesive composition), are significantly different than the aqueous dispersion type pressure-sensitive adhesive composition of the present invention.

Accordingly, since Lucast employs different materials having different characteristics from those of the present invention, and neither of Coopridner or Benedek remedy Lucast's deficiencies, the instant claims are patentable over all of Lucast, Coopridner and Benedek, alone or in combination.

Withdrawal of the rejection is earnestly solicited.

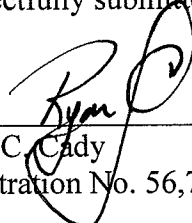
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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